Listing of Claims

1. (Currently Amended) A digital video signal processing system implemented for a mobile communication system, comprising:

a plurality of video conference terminals each including or coupled to a video camera; and

a multipoint controller which mixes video signals received from the video conference terminals to generate a combined video signal and transmits the combined video signal to each of the video conference terminals, wherein the multipoint controller includes:

an inverse coding unit which respectively inverse codes the video signals received from each of the video conference terminals;

a position setting unit which sets positions of video signals output from the inverse coding unit;

a coding unit which encodes the video signals output from the position setting unit; and

a mixer which mixes video signals output from the coding unit into a final image corresponding to the combined video signal.

2. (Original) The apparatus of claim 1, wherein each of the video conference terminals includes:

a scaler which reduces a resolution of a video signal received through the video camera; and

a transmitter for transmitting the reduced-resolution video signal to the controller.

3. (Currently Amended) The apparatus of claim 1, wherein the position setting unit ~~MCU~~ includes:

an address setting unit which sets a macroblock address for each of the received video signals in the combined video signal.

4. (Original) The apparatus of claim 3, wherein the address setting unit sets an absolute address only for a macroblock corresponding to a predetermined position of each slice of a final image corresponding to the combined video signal.

5. (Currently Amended) The apparatus of claim 4, wherein the address setting unit codes an address difference value ~~(different)~~ from a previous macroblock for a remainder of macroblocks in each slice of the final image, except the macroblock in which the absolute address is set.

6. (Original) The apparatus of claim 1, wherein each of the video conference terminal includes:

a converter which converts a video signal received through the video camera into a digital video signal;

a down scaling unit which reduces a resolution of the digital video signal;

an encoding unit which compresses an output signal of the down scaling unit; and

a transmitter which transmits an output signal of the encoding unit to the multipoint controller.

7. (Original) The apparatus of claim 6, wherein the converter converts an RGB (Red-Green-Blue) format signal received through the video camera into a YCbCr format video signal.

8. (Canceled)

9. (Currently Amended) The apparatus of claim 1 [[8]], wherein the ~~address~~ position setting unit sets an absolute address only for a macroblock placed at a predetermined position of each slice of the final image.

10. (Currently Amended) The apparatus of claim 9 [[8]], wherein the ~~address~~ position setting unit codes an address difference value from a previous macroblock for a remainder of the macroblocks in each slice of the final image except the macroblock at the predetermined position.

11. (Original) A digital video signal processing system for a mobile communication system, comprising:

a converter which converts a video signal received through a video camera into a digital video signal;

a down scaling unit which reduces a resolution of the digital video signal;

an encoding unit for compressing an output signal of the down scaling unit;

a transmitter which transmits the reduced-reduction compressed video signal;

an inverse VLC unit for decoding the transmitted reduced-resolution compressed video signal through inverse variable length coding, along with other transmitted reduced-resolution compressed video signals;

an address setting unit for setting a macroblock address for each video signal output from the inverse VLC unit;

a VLC unit which compresses the address set-video signals output from the address setting unit through variable length coding; and

a mixer which mixes the compressed video signals output from the VLC unit to form a final image.

12. (Original) The apparatus of claim 11, wherein the digital video signal is a YCbCr format video signal.

13. (Original) The apparatus of claim 11, wherein the encoding unit implements moving picture compression by a MPEG-4 method.

14. (Original) The apparatus of claim 11, wherein the address setting unit sets an absolute address only for a predetermined macroblock column for each compressed video signal included in the final image.

15. (Original) The apparatus of claim 11, wherein the address setting unit codes an address difference value from a previous macroblock for a remainder of macroblocks corresponding to each compressed video signal in the final image except the macroblock at the predetermined position.

16. (Currently Amended) A digital video signal processing method for a mobile communication system, comprising:

reducing resolution of a video signal from a video camera;

transmitting the reduced-resolution video signal to a multipoint controller; and

receiving a composite image from the controller, the composite image formed from the reduced-resolution video signal transmitted to the multipoint controller and at least one other reduced-resolution video signal, wherein the composite image is generated by:

inverse coding the reduced-resolution video signals;

setting a position for each video signal output from the inverse coding;

coding the address-set video signals; and

mixing the variable length coded-video signals to form the composite image.

17. (Original) The method of claim 16, wherein the resolution-reducing step includes:

converting the video signal from the video camera into a digital video signal of a predetermined format; and

reducing resolution of the digital video signal by performing moving picture compression, said compressed reduced-resolution video signal being transmitted in the transmitting step.

18. (Original) The method of claim 17, wherein the predetermined format is a YCbCR format.

19. (Original) The method of claim 17, wherein the moving picture compression is performed in accordance with an MPEG-4 standard.

20. (Canceled)

21. (Currently Amended) The method of claim 16 [[20]], wherein said position setting ~~the macroblock address setting step~~ includes:

setting an arrangement region for each of the video signals output from the inverse ~~variable-length~~ coding ~~step~~;

setting an absolute address of a macroblock corresponding to each of the video signals output from the inverse ~~variable-length~~ coding step, said macroblock address corresponding to a predetermined position in the composite image; and

coding an address of a remainder of the macroblocks for each video signal except the macroblock at the predetermined position as a difference value from a previous macroblock.

22. (Currently Amended) A digital video signal processing method for a mobile communication system, comprising:

converting a video signal received from a video camera into a digital video signal of a predetermined format;

reducing resolution of the digital video signal;

compressing the resolution-reduced video signal and transmitting it to a multipoint controller;

decoding the transmitted video signal through inverse variable length coding;

setting a macroblock address of the decoded video signal;

encoding the video signal through variable length coding;

performing the decoding, setting, and encoding steps for at least one other transmitted video signal; and

mixing the encoded video signals to form a final image and transmitting the final image to a video conference terminal coupled to the video camera, wherein the macroblock address setting step includes:

setting an arrangement region of the decoded video signal within the final image;

setting an absolute address of a macroblock at a predetermined position within the arrangement region of the final image; and

coding an address of a remainder of macroblocks corresponding to the decoded video signal except the macroblock at the predetermined position as a difference value from a previous macroblock.

23. (Original) The method of claim 22, wherein the predetermined format is a YCbCr format.

24. (Original) The method of claim 22, wherein the compressing step is implemented in accordance with an MPEG-4 standard.

25. (Canceled)

26. (Currently Amended) A video conferencing system, comprising:

a plurality of mobile terminals each transmitting a video signal derived from a camera; and

a multipoint controller which generates a composite video signal from the video signals transmitted from the mobile terminals, and which transmits the composite video signal to the mobile terminals, wherein the multipoint controller includes:

a first coder which inverse codes the video signals from the terminals;

a setting circuit which sets positions of video signals from the coding unit;

a second coder which encodes the video signals from the setting circuit; and

a mixer which mixes video signals from the second coder to form a final image corresponding to the combined video signal.

27. (Original) The system of claim 26, wherein each of the mobile terminals includes:

a processor that transforms the video camera signal into a reduced-resolution video signal;

a transmitter that transmits the reduced-resolution video signal to the multipoint controller.

28. (Original) The system of claim 27, wherein the processor includes:

a converter which converts a video camera signal from a first format into a second format;

a scaler which reduces a resolution of the converted video signal by a predetermined factor.

29. (Original) The system of claim 28, wherein the first format is a VGA RGB format and the second format is a VGA YCbCr format.

30. (Original) The system of claim 28, further comprising:

a compressor which compresses the reduced-resolution video signal.

31. (Original) The system of claim 30, wherein the compressor compresses the reduced-resolution video signal based on an MPEG-4 standard.

32. (Currently Amended) A method for providing video conference services in a mobile communication system, comprising:

receiving video signals from a plurality of mobile terminals;

generating a composite video signal from the received video signals; and

transmitting the composite video signal to the mobile terminals, wherein generating the composite video signal includes:

performing inverse coding for each of the received video signals;

setting an address in the composite video signal for each of the video signals which have been inverse coded;

coding the address-set video signals; and

combining the coded, address-set video signals.

33-34. (Canceled)

35. (Currently Amended) The method of claim 32 [[34]], wherein [[the]] said setting [[step]] includes ~~for each video signal~~:

setting an absolute address for one macroblock in each video signal, said absolute address corresponding to a predetermined position in the composite video signal; and

setting addresses of remaining macroblocks in each video signal based on an address difference value applied relative to a previous macroblock.

36. (Original) The method of claim 32, wherein the video signals from each of the terminals is generated by:

transforming a video camera signal into a reduced-resolution video signal; and

transmitting the reduced-resolution video signal to a multipoint controller.

37. (Currently Amended) The method of claim 36, wherein ~~the~~ transforming ~~step~~ includes:

converting the video camera signal from a first format into a second format;

reducing a resolution of the converted video signal by a predetermined factor.

38. (Original) The method of claim 37, wherein the first format is a VGA RGB format and the second format is a VGA YCbCr format.

39. (Original) The method of claim 37, further comprising:

compressing the reduced-resolution video signal prior to the transmitting step.

40. (Original) The method of claim 39, wherein the compressing step is performed based on an MPEG-4 standard.

41. (New) The apparatus of claim 1, wherein the inverse coding unit includes an inverse VLC (variable length coding) unit and the coding unit includes a VLC unit.

42. (New) The method of claim 16, wherein the inverse coding includes inverse variable-length coding and the coding includes variable-length coding.

43. (New) The system of claim 26, wherein the first coder includes an inverse variable-length coder and the second coder includes a variable-length coder.

44. (New) The method of claim 32, wherein said inverse coding includes inverse variable-length coding and said coding includes variable-length coding.